

Applicant : Kazuhiro Fujikawa et al.  
Serial No. : 10/583,501  
Filed : June 19, 2006  
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Attorney's Docket No.: 12967-0007US1 / 905350-02

Amendments to the Drawings:

The attached replacement sheets of drawings includes changes to FIGS. 6 and 7 and replace the original sheets including FIGS. 6 and 7.

As requested by the Examiner, Figures 6 and 7 have been labeled as "Prior Art."

Attachments following last page of this Amendment:

Replacement Sheets (2 pages)

REMARKS

Claim 1 is amended. Support for the amendments to claim 1 can be found, for example, in the specification at page 10, lines 17-22 and in FIGS. 1-2.

Claim 4 also is amended. Support for the amendments to claim 4 can be found, for example, in FIG. 1.

Claim 5 is amended. Support for the amendments to claim 5 can be found, for example, in FIGS. 3 and 4.

Claims 10-17 are added.

No new matter has been added.

Claim rejections under 35 U.S.C. §§102-103

The Office action rejected the claims as follows:

- (1) Claims 1-4 and 7-8 were rejected as anticipated by U.S. Patent Publication No. 2005/0006649 (Iwasaki).
- (2) Claims 5-6 and 9 were rejected as unpatentable over Iwasaki in view of U.S. Patent No. 5,331,410 (Kuwata).

Reconsideration is requested.

Each of independent claims 1 and 10 recites a junction field-effect transistor that includes a first conductivity type semiconductor layer having a channel region. A buffer layer is formed on the channel region in the first conductivity type semiconductor layer. An example of the buffer layer is illustrated in FIG. 1, which shows buffer layer 3 on the channel region in the semiconductor layer 1.

Iwasaki discloses a transistor that includes a  $n^-$  region having a channel Wvch (*see, e.g.*, FIG. 5). A gate region includes a p-type part 51 and a  $p^+$ -type part 52 (*see* FIG. 2). The Office action alleges that the p-type part 51 of the gate region corresponds to the claimed "buffer layer." As explained below, that is incorrect.

Each of claims 1 and 10 recites that a conductivity type carrier concentration in the buffer layer is *lower* than a conductivity type carrier concentration in the first conductivity type semiconductor layer. In particular, claim 1 recites that a *first* conductivity type carrier concentration in the buffer layer is *lower* than a first conductivity type carrier concentration in the first conductivity type semiconductor layer. Claim 10 recites that a *second* conductivity type carrier concentration in the buffer layer is *lower* than a first conductivity type carrier concentration in the first conductivity type semiconductor layer. In either case, the buffer layer (e.g., layer 3 in FIG. 1) has a lower carrier concentration than the semiconductor layer (e.g., layer 1 in FIG. 1).

In contrast, according to Iwasaki, the impurity concentration of p-type part 51, which the Office action alleges corresponds to the claimed “buffer layer,” is higher than that of the n<sup>-</sup>-type region 2 (*see* par. [0038]). Therefore, p-type part 51 does not correspond to the “buffer layer” of claims 1 or 10.

Furthermore, claim 1 recites that the buffer layer is either the *same* conductivity type as the semiconductor layer (e.g., layer 1 in FIG. 1) or is a semi-conductive type. In contrast, according to the Iwasaki, the highly-doped p-type part 51 has a conductivity type the *opposite* of the n<sup>-</sup>-type region 2.

Kuwata also does not disclose or render obvious the features missing from Iwasaki. Furthermore, Kuwata’s buffer layer 2 is not in a semiconductor layer as recited in the pending claims.

At least for the foregoing reasons, independent claims 1 and 10, as well as their respective dependent claims, are not anticipated by Iwasaki. Nor are they rendered obvious by Iwasaki in view of Kuwatat. Accordingly, applicant respectfully requests withdrawal of the rejections.

#### Objections to the drawings

FIGS. 6 and 7 are labeled as “Prior Art” as required by the Examiner. Accordingly, applicant requests withdrawal of the objections to the drawings.

Notice of References Cited

Listed reference N in the Notice of References Cited is EP555886 (Kuwata). The country associated with this reference appears to be incorrectly listed on the Notice. In particular, it appears the country should be listed as Europe (not Japan). Applicant respectfully requests that a corrected Notice of References Cited be provided to applicant.

Copies of priority document(s)

Paragraph 12a) of the Office Action Summary indicates that “some” of the certified copies of the foreign priority documents. The undersigned attorney notes that the PTO’s PAIR system includes an entry on February 19, 2009 that indicates a certified copy of JP 2005-015395 has been received by the USPTO. Therefore, it appears that the USPTO has received certified copies of all priority documents. If that is incorrect, the Examiner is requested to let the undersigned attorney know specifically what documents appear to be missing.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

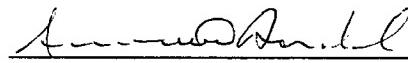
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Respectfully submitted,

Date: 10/26/09

  
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